

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE GRAND RAPIDS MICHIGAN
336 PM EDT MON JUN 01 1998

...DERECHO EVENT LEAVES TRAIL OF DESTRUCTION ACROSS WESTERN AND
CENTRAL LOWER MICHIGAN EARLY SUNDAY MORNING...

DAMAGE SURVEYS CONDUCTED BY THE NATIONAL WEATHER SERVICE OFFICE IN
GRAND RAPIDS... IN ADDITION TO SPOTTER REPORTS AND A REVIEW OF
NATIONAL WEATHER SERVICE DOPPLER RADAR DATA... INDICATE THE DAMAGE
WHICH OCCURRED WITH SUNDAY MORNINGS FAST MOVING AND HARD HITTING LINE
OF SEVERE THUNDERSTORMS WAS CAUSED PRIMARILY BY POWERFUL STRAIGHT-LINE
WINDS. METEOROLOGISTS IN RECENT YEARS HAVE COINED THE TERM...
DERECHO... (PRONOUNCED DA-RAY-CHO) TO DESCRIBE THIS TYPE OF SEVERE
WEATHER EVENT. THE NAME COMES FROM THE SPANISH WORD DERECHO WHICH
MEANS STRAIGHT OR RIGHT.

THIS PARTICULAR DERECHO FORMED IN SOUTH DAKOTA ON SATURDAY EVENING AND
RACED EASTWARD AT 70 MPH ACROSS SOUTHERN MINNESOTA... NORTHERN IOWA...
AND WISCONSIN BEFORE STRIKING LOWER MICHIGAN EARLY SUNDAY MORNING. THE
STORMS CONTINUED TO PRODUCE SEVERE WEATHER AS THEY MOVED THROUGH THE
EASTERN GREAT LAKES INTO NEW YORK STATE ON SUNDAY AFTERNOON.

SUNDAY MORNINGS DERECHO EVENT PRODUCED WIDESPREAD 60 TO 90 MPH WINDS
WHICH CAUSED EXTENSIVE TREE AND STRUCTURAL DAMAGE, AND LEFT 600,000
PEOPLE IN THE STATE OF MICHIGAN WITHOUT POWER. THERE WERE THREE STORM-
RELATED FATALITIES IN MICHIGAN WITH OVER 70 MAINLY MINOR INJURIES
REPORTED. A NUMBER OF COMMUNITIES... INCLUDING SPRING LAKE NEAR
MUSKEGON... WALKER IN NORTHWEST GRAND RAPIDS... COLBY LAKE NEAR HOWARD
CITY... AND OVID IN CLINTON COUNTY EXPERIENCED THUNDERSTORM DOWNBURST
WINDS ESTIMATED UP TO 130 MPH. THE RESULTING DAMAGE TO HOMES AND
BUILDINGS AT THESE LOCATIONS WAS EQUIVALENT TO THAT WHICH MIGHT BE
CAUSED BY A WEAK F2 TORNADO.

MANY PEOPLE DO NOT REALIZE THAT SEVERE THUNDERSTORMS CAN PRODUCE
DOWNBURST OR STRAIGHT-LINE WINDS THAT CAN BE EVERY BIT AS DESTRUCTIVE
AS TORNADOES. SIGNIFICANT DERECHOS HAVE STRUCK LOWER MICHIGAN IN JULY
OF 1995... 1991... AND 1980. A DERECHO ON JULY 4TH 1977 PRODUCED
DOWNBURST WINDS IN EXCESS OF 150 MPH IN NORTHERN WISCONSIN. SUCH
INCREDIBLE WINDS AT GROUND LEVEL ARE PRODUCED AND MAINTAINED AS STRONG
WINDS AND DRY AIR ALOFT ARE INGESTED AT THE REAR OF A SQUALL LINE
AROUND 10000 FEET ABOVE THE EARTHS SURFACE. THE ENTRAINMENT OF DRY AIR
INTO THE PRECIPITATION DOWNDRAFT OF THE STORMS CAUSES ADDITIONAL
EVAPORATIVE COOLING WHICH FURTHER ENHANCES THE DOWNWARD ACCELERATION
OF AIR PARCELS WITHIN THE DOWNDRAFT. AS A RESULT THE MOMENTUM OF
STRONGER UPPER LEVEL WINDS MAY BE FORCED TO THE GROUND. ONCE AT THE
GROUND... THESE WINDS TYPICALLY FAN OUT AND FORM A GUST FRONT.
SOMETIMES... STRONGER... MORE CONCENTRATED DOWNBURSTS OF WIND OCCUR.
SUCH MICROBURSTS MAY EXHIBIT TORNADO-LIKE OR HURRICANE-LIKE DAMAGE.

JUNE THROUGH AUGUST IS THE PRIME SEASON FOR DERECHOS IN MICHIGAN.
ALTHOUGH SEVERE WEATHER EVENTS LIKE THE ONE ON SUNDAY ARE
INFREQUENT... A NOAA WEATHER RADIO SERVES AS A FIRST LINE OF DEFENSE
TO ALERTING YOU AND YOUR LOVED ONES TO HAZARDOUS WEATHER SITUATIONS.